

CLAIMS

1. A data transmission system, comprising a transmitter and a receiver,
5 wherein the transmitter is arranged to send data bursts with a duty cycle of
less than 5% at transmission timing points, the transmitter comprising a
pseudo-random signal generator which governs the time delay between
successive timing points and a local oscillator which controls the time of data
transmission, and wherein the receiver comprises a corresponding pseudo-
10 random signal generator and local oscillator, and wherein power is applied to
the receiver substantially only corresponding in time to the timing of the data
bursts.
2. A system as claimed in claim 1, wherein the transmitter is arranged to
15 send data bursts with a duty cycle of less than 1%.
3. A system as claimed in claim 1, wherein the transmitter and receiver
each include a power source comprising a non-rechargeable battery.
4. A system as claimed in claim 1, wherein each pseudo-random signal
20 generator comprises a maximal length feedback shift register.
5. A system as claimed in claim 1, wherein each data burst comprises a
header section and a data section, and wherein the header section for a sub-
25 set of the data bursts comprises a sequence which is unique to the header,
thereby to enable receiver to obtain bit timing information.
6. A system as claimed in claim 1, wherein each data burst comprises a
header section and a data section, and wherein the header section for a sub-
30 set of the data bursts comprises data defining the time period to the next
message.

7. A system as claimed in claim 5, wherein the header comprises address data which identifies the transmitter to the receiver.

8. A system as claimed in claim 7, wherein the address data is used in combination with the pseudo-random signal generator to generate a modified pseudo random sequence.

9. A system as claimed in claim 1, wherein the transmitter is for attachment to a shoe, and comprises an accelerometer and a processing unit, the processing unit integrating the detected acceleration over time to obtain instantaneous speed values which are transmitted in the data bursts.

10. A system as claimed in claim 9, wherein the receiver is for wearing on the wrist of the user of the system.

11. A system as claimed in claim 1, wherein each local oscillator comprises a 32768Hz quartz oscillator.

12. A system as claimed in claim 6, wherein the header comprises address data which identifies the transmitter to the receiver.

13. A system as claimed in claim 12, wherein the address data is used in combination with the pseudo-random signal generator to generate a modified pseudo random sequence.